

Abstract of the Disclosure

In response to detecting an intermediate frequency signal whose frequency deviates from a specified range of frequencies, the intermediate frequency signal is pulled into a stable operation point for the automatic intermediate frequency stabilization control. This prevents erroneous operations in frequency discrimination, leading to automatic intermediate frequency stabilization control carried out steadily. In the pulling control, the stable operation point is determined based on an output frequency from a frequency discriminator and its primary and secondary differential values to temperature or bias current of a laser, and then the intermediate frequency signal is pulled into the stable operation point. In addition, where the intermediate frequency signal deviates from its stabilized control state, oscillation frequencies of FM laser and/or local oscillating laser are controlled based on previously memorized their bias current and/or temperature to restart stabilization control of the intermediate frequency signal.